Amendments to the Claims

1. (Currently Amended) An implant for bridging a gap in a severed spinal cord or nerve and for promoting nerve regeneration, the implant comprising:

a matrix comprising a biocompatible, biodegradable, polymeric material and a bioactive agent dispersed within the matrix, the matrix having a proximal end for connection to a first end of a severed spinal cord or nerve and a distal end for connection to a second end of the severed spinal cord or nerve,

wherein the matrix includes a plurality of internal guidance channels extending between the proximal end of the matrix and the distal end of the matrix to facilitate rejoining of the first end of the severed spinal cord or nerve and the second end of the severed spinal cord or nerve, and

wherein the bioactive agent is a proteoglycan degrading enzyme, and

the guidance channels are spaced apart adjacent a perimeter of the matrix at the proximal end of the matrix and converge inward toward the axis of the matrix at the distal end of the matrix.

2. (Original) The implant of claim 1 wherein:

the polymeric material is poly(lactide-co-glycolide).

3. (Original) The implant of claim 1 further comprising:

Schwann cells disposed within at least one of the plurality of guidance channels.

4. (Canceled)

5. (Previously Presented) The implant of claim 1 wherein:

the proteoglycan degrading enzyme is chondroitinase.

6. (Original) The implant of claim 5 wherein:

the chondroitinase is chondroitinase ABC.

7. (Original) The implant of claim 1 wherein:

biocompatible, biodegradable, polymeric microspheres including a second bioactive agent are disposed within at least one of the plurality of guidance channels.

8. (Original) The implant of claim 7 wherein:

the microspheres comprise poly(lactide-co-glycolide).

9. (Original) The implant of claim 7 wherein:

the second bioactive agent is a proteoglycan degrading enzyme.

10. (Original) The implant of claim 9 wherein:

the proteoglycan degrading enzyme is chondroitinase.

11. (Original) The implant of claim 10 wherein:

the chondroitinase is chondroitinase ABC.

12. (Original) The implant of claim 1 wherein:

the guidance channels are arranged such that the guidance channels correspond to spinal cord tracts when the implant is positioned in a gap in a severed spinal cord.

13. (Canceled)

14. (Original) The implant of claim 1 wherein:

Schwann cells disposed within at least one of the plurality of guidance channels, and

biocompatible, biodegradable, polymeric microspheres including a second bioactive agent other than Schwann cells are disposed within at least one of the plurality of guidance channels.

15. (Original) The implant of claim 1 wherein:

Schwann cells disposed within at least one of the plurality of guidance channels, and

a second bioactive agent other than Schwann cells is disposed within at least one of the plurality of guidance channels.

16. (Currently Amended) An implant for bridging a gap in a severed spinal cord or nerve and for promoting nerve regeneration, the implant comprising:

a matrix comprising a biocompatible, biodegradable, polymeric material, the matrix having a proximal end for connection to a first end of a severed spinal cord or nerve and a distal end for connection to a second end of the severed spinal cord or nerve,

wherein the matrix includes a plurality of internal guidance channels extending between the proximal end of the matrix and the distal end of the matrix to facilitate rejoining of the first end of the severed spinal cord or nerve and the second end of the severed spinal cord or nerve, and

wherein a bioactive agent other than Schwann cells is disposed in at least one of the guidance channels, and

wherein the bioactive agent is a proteoglycan degrading enzyme, and

the guidance channels are spaced apart adjacent a perimeter of the matrix at the proximal end of the matrix and converge inward toward the axis of the matrix at the distal end of the matrix.

17. (Canceled).

18. (Previously Presented) The implant of claim 16 wherein:

the proteoglycan degrading enzyme is chondroitinase.

19. (Original) The implant of claim 18 wherein:

the chondroitinase is chondroitinase ABC.

20. (Original) The implant of claim 16 wherein:

the bioactive agent in included within biocompatible, biodegradable, polymeric microspheres disposed within at least one of the plurality of guidance channels.

21. (Original) The implant of claim 20 wherein:

the microspheres comprise poly(lactide-co-glycolide).

22. (Original) The implant of claim 20 wherein:

the microspheres are suspended in a carrier.

23. (Canceled).

24. (Previously Presented) The implant of claim 20 wherein:

the proteoglycan degrading enzyme is chondroitinase.

25. (Original) The implant of claim 24 wherein:

the chondroitinase is chondroitinase ABC.

26. (Original) The implant of claim 16 wherein:

the guidance channels are arranged such that the guidance channels correspond to spinal cord tracts when the implant is positioned in a gap in a severed spinal cord.

27. (Canceled)

28. (Canceled)

29. (Canceled)

30. (Canceled).

31. (Canceled)

32. (Canceled).

33. (Original) An implant for bridging a gap in a severed spinal cord or nerve and for promoting nerve regeneration, the implant comprising:

a matrix comprising a biocompatible, biodegradable, polymeric material, the matrix having a proximal end for connection to a first end of a severed spinal cord or nerve and a distal end for connection to a second end of the severed spinal cord or nerve,

wherein the matrix includes a plurality of internal guidance channels extending between the proximal end of the matrix and the distal end of the matrix to facilitate rejoining of the first end of the severed spinal cord or nerve and the second end of the severed spinal cord or nerve, and

wherein the guidance channels are spaced apart adjacent a perimeter of the matrix at the proximal end of the matrix and converge inward toward the axis of the matrix at the distal end of the matrix.

34. (Original) The implant of claim 33 wherein:

Schwann cells disposed within at least one of the plurality of guidance channels, and

biocompatible, biodegradable, polymeric microspheres including a bioactive agent other than Schwann cells are disposed within at least one of the plurality of guidance channels.

35. (Original) The implant of claim 34 wherein:

the bioactive agent is a proteoglycan degrading enzyme.

36. (Original) The implant of claim 33 wherein:

Schwann cells disposed within at least one of the plurality of guidance channels, and

a bioactive agent other than Schwann cells is disposed within at least one of the plurality of guidance channels.

37. (Original) The implant of claim 36 wherein:

the bioactive agent is a proteoglycan degrading enzyme.